RL: RCT (Reactant); RACT (Reactant or reagent)
(from Poncirus trifoliata leaves)

```
=> s l8 or Narirutin or Didymin or  Neoponcirin
            98 L8
           214 NARIRUTIN
             2 NARIRUTINS
           214 NARIRUTIN
                 (NARIRUTIN OR NARIRUTINS)
            59 DIDYMIN
             1 DIDYMINS
            59 DIDYMIN
                 (DIDYMIN OR DIDYMINS)
            19 NEOPONCIRIN
L20        248 L8 OR NARIRUTIN OR DIDYMIN OR  NEOPONCIRIN

=> s l20 not py>-2000
      26131370 PY>-2000
L21           0 L20 NOT PY>-2000

=> s l20 not py>=2000
       649867
```

```
L2          98 L1


           214 NARIRUTIN
             2 NARIRUTINS
           214 NARIRUTIN
                 (NARIRUTIN OR NARIRUTINS)
            59 DIDYMIN
             1 DIDYMINS
            59 DIDYMIN
                 (DIDYMIN OR DIDYMINS)
            19 NEOPONCIRIN
L3         248 L2 OR NARIRUTIN OR DIDYMIN OR NEOPONCIRIN


=> s l3 not py>=2000
      6503949 PY>=2000
L4         132 L3 NOT PY>=2000

=> d ibib abs kwic 1-20

L4   ANSWER 1 OF 132  CAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         2000:199982  CAPLUS
DOCUMENT NUMBER:          133:16667
TITLE:                    Flavanone glucosides in Italian orange juices
AUTHOR(S):                Postorino, Enrico; Gionfriddo, Francesco
CORPORATE SOURCE:         Stazione Sperimentale per le Industrie delle Essenze e
                          dei Derivati dagli Agrumi, Reggio Calabria, Italy
SOURCE:                   Essenze, Derivati Agrumari (1999), 69(3), 149-158
                          CODEN: EDAGAH; ISSN: 0014-0902
PUBLISHER:                Stazione Sperimentale per l'Industria delle Essenze e
                          dei Derivati Agrumari
DOCUMENT TYPE:            Journal
LANGUAGE:                 Italian
AB   Fresh (n=29) and concentrated juices (n=39) produced in Sicily and Calabria from
     blond and blood (red) oranges in 1997-98 season were analyzed for the the
     flavonone glycosides narirutin, hesperidin, and didymin
     by reversed-phase HPLC.  The fresh juices from blood oranges had the
     narirutin, hesperidin, and didymin mean concns. of 76,
     704, and 35 mg/L, resp.  The mean ratio of hesperidin to narirutin
     was 9.30.  The concentrated juices reconstituted to 11.18° Brix had the
     resp. narirutin, hesperidin and didymin mean concns.
     of 52, 691, and 24 mg/L for blood orange juices and 80, 602, and 32 mg/L
     for blond orange juices.  The mean ratios of hesperidin to
     narirutin were 13.3 and 7.61, resp.
REFERENCE COUNT:          12    THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS
                                RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
AB   Fresh (n=29) and concentrated juices (n=39) produced in Sicily and Calabria from
     blond and blood (red) oranges in 1997-98 season were analyzed for the the
     flavonone glycosides narirutin, hesperidin, and didymin
     by reversed-phase HPLC.  The fresh juices from blood oranges had the
     narirutin, hesperidin, and didymin mean concns. of 76,
     704, and 35 mg/L, resp.  The mean ratio of hesperidin to narirutin
     was 9.30.  The concentrated juices reconstituted to 11.18° Brix had the
     resp. narirutin, hesperidin and didymin mean concns.
     of 52, 691, and 24 mg/L for blood orange juices and 80, 602, and 32 mg/L
     for blond orange juices.  The mean ratios of hesperidin to
     narirutin were 13.3 and 7.61, resp.
ST   orange juice flavanone glucoside narirutin hesperidin
     didymin
IT   Orange juice
        (flavanone glucosides narirutin, hesperidin and
        didymin in Italian fresh and concentrated juices from red and blonde
        oranges)
IT   Flavonoids
     RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
        (oxo dihydro; flavanone glucosides narirutin, hesperidin and
```

didymin in Italian fresh and concentrated juices from red and blonde oranges)

IT 520-26-3, Hesperidin 14259-46-2, **Narirutin 14259-47-3**, **Didymin**
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(flavanone glucosides **narirutin**, hesperidin and **didymin** in Italian fresh and concentrated juices from red and blonde oranges)

L4 ANSWER 2 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:777522 CAPLUS
DOCUMENT NUMBER: 132:92414
TITLE: Validation of a liquid chromatography ion spray mass spectrometry method for the analysis of flavanones, flavones and flavonols
AUTHOR(S): Careri, M.; Elviri, L.; Mangia, A.
CORPORATE SOURCE: Dipartimento di Chimica Generale ed Inorganica, Chimica Analitica, Chimica Fisica, Universita degli Studi di Parma, Parma, I-43100, Italy
SOURCE: Rapid Communications in Mass Spectrometry (1999), 13(23), 2399-2405
CODEN: RCMSEF; ISSN: 0951-4198
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The application of liquid chromatog./mass spectrometry (LC/MS) with a TurboIonspray (TIS) interface was studied as a new method for the anal. of flavonoids. Eleven compds. belonging to three different classes of flavonoids were studied: eriocitrin, neoeriocitrin, naringin, **narirutin**, hesperidin, neohesperidin (flavanone glycosides), quercetin, kaempferol, galangin (flavonol aglycons), chrysin, apigenin (flavone aglycons). Chromatog. sepns. were performed under reversed-phase conditions using a C18 narrow-bore LC column; a mixture of an aqueous solution of formic acid (pH 2.4) and MeCN was used as the mobile phase. Isocratic elution was operated in the case of flavanones, whereas gradient elution was used for the simultaneous separation of flavones and flavonols. The adaptability of TIS to high flow applications allows the use of LC eluent flow rates at 200 μL/min without post-column splitting. Qual. anal. was performed in neg.-ion (NI) full-scan mode, whereas response linearity, detection limits and precision of the method were studied under NI selected ion monitoring (SIM) conditions. Characterization of isomers differing in the glycosylation is possible from different mass spectra. Detection limits in the low-ng range (0.08-0.4 ng) were found, about twenty-fold lower than those reported previously. The method was applied to identify and determine the content of flavonoids in an orange juice sample.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB The application of liquid chromatog./mass spectrometry (LC/MS) with a TurboIonspray (TIS) interface was studied as a new method for the anal. of flavonoids. Eleven compds. belonging to three different classes of flavonoids were studied: eriocitrin, neoeriocitrin, naringin, **narirutin**, hesperidin, neohesperidin (flavanone glycosides), quercetin, kaempferol, galangin (flavonol aglycons), chrysin, apigenin (flavone aglycons). Chromatog. sepns. were performed under reversed-phase conditions using a C18 narrow-bore LC column; a mixture of an aqueous solution of formic acid (pH 2.4) and MeCN was used as the mobile phase. Isocratic elution was operated in the case of flavanones, whereas gradient elution was used for the simultaneous separation of flavones and flavonols. The adaptability of TIS to high flow applications allows the use of LC eluent flow rates at 200 μL/min without post-column splitting. Qual. anal. was performed in neg.-ion (NI) full-scan mode, whereas response linearity, detection limits and precision of the method were studied under NI selected ion monitoring (SIM) conditions. Characterization of isomers differing in the glycosylation is possible from different mass spectra. Detection limits in the low-ng range (0.08-0.4 ng) were found, about twenty-fold lower than those reported previously. The method was applied to identify and determine the content of flavonoids in an orange juice sample.

IT 117-39-5, Quercetin 480-40-0, Chrysin 520-18-3, Kaempferol 520-26-3,

Hesperidin 520-36-5, Apigenin 548-83-4, Galangin 10236-47-2, Naringin 13241-32-2, Neoeriocitrin 13241-33-3, Neohesperidin 13463-28-0, Eriocitrin 14259-46-2, **Narirutin**
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)
(validation of a liquid chromatog. ion spray mass spectrometry method for the anal. of flavanones, flavones and flavonols)

L4 ANSWER 3 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN.
ACCESSION NUMBER: 1999:711320 CAPLUS
DOCUMENT NUMBER: 132:221518
TITLE: New topics in syrup analysis. Application of flavonoid and carotenoid profiles in studies on citrus syrups
AUTHOR(S): Mouly, P.; Beaucousin, F.; Corsetti, J.; Estienne, J.
CORPORATE SOURCE: Societe Generale de Surveillance, Centre de recherche et de valorisation des produits de la consommation, Marseille, 13333, Fr.
SOURCE: Annales des Falsifications de l'Expertise Chimique et Toxicologique (1999), 92(947), 149-162
CODEN: AFETDF; ISSN: 0242-6110
PUBLISHER: Societe des Experts-Chimistes de France
DOCUMENT TYPE: Journal
LANGUAGE: French
AB Examination of labeling of citrus syrups (lemons and orange) according to color addns. and exogenous materials were made. For this, 2 liquid chromatog. procedures were used: in one hand, flavanone glycosides quantitation on C-18 column with binary gradient of acidified water and acetonitrile, detection at 280 nm. On the other hand, quantitation of carotenoid realized on orange syrup on C-18 column used a ternary gradient of methanol, acetone and water, detection at 430 nm. Syrup (19) from retailers and 7 syrups from national brands (10 lemon syrups and 16 orange syrups). Sour orange (Citrus aurantium), characterized by neoeriocitrin, naringin and neohesperidin, is present in 50% samples of lemon and orange syrups. Lutein not mentioned on label have been found in 31% of com. orange syrups.
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
IT 127-40-2, Lutein 144-68-3, Zeaxanthin 465-42-9, Capsanthin 520-26-3, Hesperidin 7235-40-7, β-Carotene 10236-47-2, Naringin 13241-32-2, Neoeriocitrin 13241-33-3, Neohesperidin 13463-28-0, Eriocitrin 14259-46-2, **Narirutin 14259-47-3**, **Didymin** 14941-08-3, Poncirin
RL: ANT (Analyte); ANST (Analytical study)
(new topics in syrup anal., application of flavonoid and carotenoid profiles in studies on citrus syrups)

L4 ANSWER 4 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:535608 CAPLUS
DOCUMENT NUMBER: 131:227979
TITLE: Flavonoids as authenticity markers for Citrus sinensis juice
AUTHOR(S): Ooghe, W.; Detavernier, C.
CORPORATE SOURCE: Lab. Bromatologie, Ghent, B-9000, Belg.
SOURCE: Fruit Processing (1999), 9(8), 308-313
CODEN: FRPREY; ISSN: 0939-4435
PUBLISHER: Fluessiges Obst
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Flavanone glycosides (FGs) and polymethoxyflavones (PMFs) were determined by HPLC to detect adulterations by the addition of non-Citrus sinensis juices (C. paradisi, C. bergamia, C. aurantium, C. reticulata, and hybrids) to sweet orange juices. Sweet orange juice has to fulfil the rules, that **narirutin**, hesperidin, and dimydin are present, that eriocitrin and the flavanone neohesperidosides are absent, and that the ratio hesperidin on **narirutin** is 3-13. Using the FGs it was not always possible to differentiate between C. sinensis juice and other juices, as for instance some C. reticulata species and tangor hybrids, especially in case of addition of small amts. of such juices. The determination of the

relative PMF pattern was developed as complementary method. Adulterations of authentic sweet orange juice with ≥10% of juices from C. reticulata and tangor hybrids were detected.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB Flavanone glycosides (FGs) and polymethoxyflavones (PMFs) were determined by HPLC to detect adulterations by the addition of non-Citrus sinensis juices (C. paradisi, C. bergamia, C. aurantium, C. reticulata, and hybrids) to sweet orange juices. Sweet orange juice has to fulfil the rules, that **narirutin**, hesperidin, and dimydin are present, that eriocitrin and the flavanone neohesperidosides are absent, and that the ratio hesperidin on **narirutin** is 3-13. Using the FGs it was not always possible to differentiate between C. sinensis juice and other juices, as for instance some C. reticulata species and tangor hybrids, especially in case of addition of small amts. of such juices. The determination of the relative PMF pattern was developed as complementary method. Adulterations of authentic sweet orange juice with ≥10% of juices from C. reticulata and tangor hybrids were detected.

IT 90-18-6, Quercetagetin 478-01-3, Nobiletin 481-53-8, Tangeretin 520-26-3, Hesperidin 529-53-3, Scutellarein 1178-24-1 2306-27-6, Sinensetin 14259-46-2, **Narirutin 14259-47-3**, **Didymin**
RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)
(flavonoids as authenticity markers for Citrus sinensis juice)

L4 ANSWER 5 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:516668 CAPLUS
DOCUMENT NUMBER: 131:169574
TITLE: Dry citrus rinds for the production of feeds in Italy
AUTHOR(S): Di Giacomo, Angelo; Postorino, Enrico; Gionfriddo, Francesco
CORPORATE SOURCE: Italy
SOURCE: Essenze, Derivati Agrumari (1998), 68(3), 300-308
CODEN: EDAGAH; ISSN: 0014-0902
PUBLISHER: Stazione Sperimentale per l'Industria delle Essenze e dei Derivati Agrumari
DOCUMENT TYPE: Journal
LANGUAGE: Italian

AB The Italian citrus industry generates large amts. of processing byproducts (after juice pressing and oil extraction) with potential use as animal feeds. The mix of orange and citrus byproducts was neutralized with limestone and ground to a paste. The liquid phase was pressed out and concentrated by evaporation to molasses, which was subsequently mixed with the solids to yield a mixture with lower water content. This mixture was then dried in a drum dryer to the final dry matter content of .apprx.88%. Dry matter, Brix degree, carbohydrates, total N, minerals, pectins, and flavonoids were determined during the process. Anal. of the dry final product showed 9.05-9.80% total carbohydrates, 0.77-0.79% total N (corresponding to 4.81-4.94% protein), 10.90-11.80% minerals (0.18-0.24% Na, 0.55-1.20% K, 2.24-5.52% Ca, 0.094-0.095% Mg, 0.065-0.087% P), 3.03-4.00% flavonoids (hesperidine, eriocitrin, **narirutin**, didymine), and 1.03-1.20% pectins.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB The Italian citrus industry generates large amts. of processing byproducts (after juice pressing and oil extraction) with potential use as animal feeds. The mix of orange and citrus byproducts was neutralized with limestone and ground to a paste. The liquid phase was pressed out and concentrated by evaporation to molasses, which was subsequently mixed with the solids to yield a mixture with lower water content. This mixture was then dried in a drum dryer to the final dry matter content of .apprx.88%. Dry matter, Brix degree, carbohydrates, total N, minerals, pectins, and flavonoids were determined during the process. Anal. of the dry final product showed 9.05-9.80% total carbohydrates, 0.77-0.79% total N (corresponding to 4.81-4.94% protein), 10.90-11.80% minerals (0.18-0.24% Na, 0.55-1.20% K, 2.24-5.52% Ca, 0.094-0.095% Mg, 0.065-0.087% P), 3.03-4.00% flavonoids (hesperidine, eriocitrin, **narirutin**, didymine), and 1.03-1.20% pectins.

IT 520-26-3, Hesperidine 7439-95-4, Magnesium, biological studies 7440-09-7, Potassium, biological studies 7440-23-5, Sodium, biological studies 7440-70-2, Calcium, biological studies 7723-14-0, Phosphorus, biological studies 9000-69-5, Pectin 13463-28-0, Eriocitrin 14259-46-2, **Narirutin 14259-47-3**, Didymine
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(citrus processing byproducts drying for use as feeds in Italy)

L4 ANSWER 6 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:493617 CAPLUS
DOCUMENT NUMBER: 131:298969
TITLE: Trolox equivalent antioxidant capacity of average flavonoids intake in Finland
AUTHOR(S): Kumpulainen, J. T.; Lehtonen, M.; Mattila, P.
CORPORATE SOURCE: Agricultural Research Centre of Finland, Food Chemistry Research, Jokioinen, 31600, Finland
SOURCE: Special Publication - Royal Society of Chemistry (1999), 240(Natural Antioxidants and Anticarcinogens in Nutrition, Health and Disease), 141-150
CODEN: SROCDO; ISSN: 0260-6291
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The contributions of various food groups to dietary flavonoid intake in Finland were studied. Fruits and beverages accounted for most of the flavonoids intake, oranges and tea supplying major amts. Hesperetin, naringin and quercetin represented .apprx.80% of total flavonoid intake.
REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
IT 90-19-7, Rhamnetin 117-39-5, Quercetin 153-18-4, Rutin 154-23-4, (+)-Catechin 480-19-3, Isorhamnetin 480-41-1, Naringenin 490-46-0, (-)-Epicatechin 491-70-3, Luteolin 520-18-3, Kaempferol 520-26-3, Hesperidin 520-33-2, Hesperetin 520-36-5, Apigenin 522-12-3, Quercitrin 528-48-3, Fisetin 529-44-2, Myricetin 548-83-4, Galangin 552-58-9, Eriodictyol 970-74-1, Epigallocatechin 989-51-5, Epigallocatechin gallate 1257-08-5 10236-47-2, Naringin 13463-28-0, Eriocitrin 14259-46-2, **Narirutin** 17912-87-7, Myricitrin
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(antioxidant capacity of average flavonoids intake in Finland)

L4 ANSWER 7 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:484818 CAPLUS
DOCUMENT NUMBER: 131:256433
TITLE: Quantitation of Flavonoid Constituents in Citrus Fruits
AUTHOR(S): Kawaii, Satoru; Tomono, Yasuhiko; Katase, Eriko; Ogawa, Kazunori; Yano, Masamichi
CORPORATE SOURCE: National Institute of Fruit Tree Science, Okitsu, Shimizu, Shizuoka, 424-0204, Japan
SOURCE: Journal of Agricultural and Food Chemistry (1999), 47(9), 3565-3571
CODEN: JAFCAU; ISSN: 0021-8561
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Twenty-four flavonoids were determined in 66 Citrus species and near-citrus relatives, grown in the same field and year, by means of reversed phase HPLC anal. Statistical methods were applied to find relations among the species. The F ratios of 21 flavonoids obtained by applying ANOVA anal. are significant, indicating that a classification of the species using these variables is reasonable to pursue. Principal component anal. revealed that the distributions of Citrus species belonging to different classes were largely in accordance with Tanaka's classification system.
REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
IT 117-39-5, Quercetin 153-18-4, Rutin 478-01-3, Nobiletin 480-18-2, Taxifolin 480-41-1, Naringenin 481-53-8, Tangeretin 491-70-3,

Luteolin 520-18-3, Kaempferol 520-26-3, Hesperidin 520-27-4, Diosmin 520-36-5, Apigenin 552-57-8, Isorhoifolin 1178-24-1 2306-27-6, Sinensetin 10236-47-2, Naringin 13241-32-2, Neoeriocitrin 13241-33-3, Neohesperidin 13463-28-0, Eriocitrin 14259-46-2, **Narirutin 14259-47-3**, **Neoponcirin** 14941-08-3, Poncirin 17306-46-6, Rhoifolin 35154-55-3, Natsudaidain 38665-01-9, Neodiosmin
RL: ANT (Analyte); ANST (Analytical study)
(quantitation of flavonoid constituents in Citrus fruits)

L4 ANSWER 8 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:484620 CAPLUS
DOCUMENT NUMBER: 131:115712
TITLE: Comparative analysis of the effects of flavonoids on proliferation, cytotoxicity, and apoptosis in human colon cancer cell lines
AUTHOR(S): Kuntz, S.; Wenzel, U.; Daniel, H.
CORPORATE SOURCE: Institute Nutritional Sciences, Giessen, D-35392, Germany
SOURCE: European Journal of Nutrition (1999), 38(3), 133-142
CODEN: EJNUFZ; ISSN: 1436-6207
PUBLISHER: Dr. Dietrich Steinkopff Verlag GmbH & Co. KG
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Flavonoids are polyphenolic compds. that occur ubiquitously in foods of plant origin. Their proposed protective role in tumor development may prevail especially in the intestinal tract due to direct exposure of intestinal epithelia to these dietary ingredients. The authors have screened >30 flavonoids for their effects on cell proliferation and potential cytotoxicity in the human colon cancer cell lines Caco-2, displaying features of small intestinal epithelial cells, and HT-29, resembling colonic crypt cells. In addition, for selected compds. the authors assessed whether they induce apoptosis by determining caspase-3 activation. Studies on the dose dependent effects of the flavonoids showed antiproliferative activity of all compds. with EC50 values ranging between 39.7 μM (baicalein) and 203.6 ± 15.5 μM (diosmin). In almost all cases, growth inhibition by the flavonoids occurred in the absence of cytotoxicity. There was no obvious structure-activity relationship in the antiproliferative effects either on basis of the subclasses (i.e., isoflavones, flavones, flavonols, flavanones) or with respect to kind or position of substituents within a class. In a subset of expts. the authors examined the antiproliferative activities of the most potent compound of each flavonoid subgroup in addition in LLC-PK1, a renal tubular cell line, and the human breast cancer cell line MCF-7. Out of 4 flavonols tested, 3 displayed almost equal antiproliferative activities in all cell lines hut fisetin was less potent in MCF-7 cells. The flavanones bavachinin and flavanone inhibited growth of Caco-2 and HT-29 cells with lower EC50 values than that obtained in LLC-PK1 and MCF-7 cells. The lower susceptibility of LLC-PK1 and MCF-7 cells towards growth arrest was even more pronounced in the case of the flavone baicalein. Half maximal growth-inhibition in LLC-PK1 and MCF-7 required 2.5 and 6.6 fold higher concns. than that needed in the intestinal cell lines. The flavonoids failed to affect apoptosis in LLC-PK1 and MCF-7, whereas baicalein and myricetin were able to induce apoptosis in HT-29 and Caco-2 cells. In conclusion, flavonoids of the flavone, flavonol, flavanone, and isoflavone classes possess antiproliferative effects in different cancer cell lines. The capability of flavonoids for growth inhibition and induction of apoptosis can not be predicted on the basis of their chemical composition and structure.
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
IT 117-39-5, Quercetin 153-18-4, Rutin 446-72-0, Genistein 480-16-0, Morin 480-40-0, Chrysin 480-44-4, Acacetin 481-53-8, Tangeretin 486-66-8, Daidzein 487-26-3, Flavanone 491-54-3, Kaempferide 491-67-8, Baicalein 491-70-3, Luteolin 491-78-1, 5-Hydroxy-flavone 491-80-5, Biochanin A 520-18-3, Kaempferol 520-26-3, Hesperidin 520-27-4, Diosmin 520-33-2, Hesperetin 520-34-3, Diosmetin 520-36-5, Apigenin 528-48-3, Fisetin 529-44-2, Myricetin 529-59-9, Genistin

577-85-5, 3-Hydroxy-flavone 3681-99-0, Puerarin 6665-86-7,
7-Hydroxy-flavone 10236-47-2, Naringin 13241-33-3, Neohesperidin
14259-47-3, **Didymin** 19879-30-2, Bavachinin
26544-34-3, Apiin 38183-03-8, 7.8-Di-hydroxy-flavone
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(flavonoids effect on proliferation, cytotoxicity, and apoptosis in colon cancer)

L4 ANSWER 9 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:466538 CAPLUS
DOCUMENT NUMBER: 131:211575
TITLE: Flavonoids from the leaves of Citrus aurantium (sour orange) and Citrus sinensis (sweet orange)
AUTHOR(S): Haggag, E. G.; Mahmoud, I. I.; Abou-Moustafa, E. A.; Mabry, T. J.
CORPORATE SOURCE: Pharmacognosy Department, Faculty of Pharmacy, Helwan University, Cairo, Egypt
SOURCE: Asian Journal of Chemistry (1999), 11(3), 707-714
CODEN: AJCHEW; ISSN: 0970-7077
PUBLISHER: Asian Journal of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Polymethoxylated flavonoids and flavonoid O- and C-glycosides were isolated and identified from exts. of the leaves of Citrus aurantium var. amara L (sour orange) and Citrus sinensis L (sweet orange). Altogether twenty-three flavonoids were obtained from the two species (Table-1). This is the first report of four of the polymethoxylated flavonoids from leaves of C. sinensis, namely tetra-O-Me scutellarein, queratagetin hexamethyl ether, isosinensetin, and sinensetin; the latter two were also obtained for the first time from the leaves of C. aurantium. This is also the first report of several C-glycosides of apigenin and diosmetin from the two species (see Table-1). Furthermore, this is the first report of neodiosmin, poncirin, **narirutin** glucoside and naringin glucoside from the leaves of C. aurantium.
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
AB Polymethoxylated flavonoids and flavonoid O- and C-glycosides were isolated and identified from exts. of the leaves of Citrus aurantium var. amara L (sour orange) and Citrus sinensis L (sweet orange). Altogether twenty-three flavonoids were obtained from the two species (Table-1). This is the first report of four of the polymethoxylated flavonoids from leaves of C. sinensis, namely tetra-O-Me scutellarein, queratagetin hexamethyl ether, isosinensetin, and sinensetin; the latter two were also obtained for the first time from the leaves of C. aurantium. This is also the first report of several C-glycosides of apigenin and diosmetin from the two species (see Table-1). Furthermore, this is the first report of neodiosmin, poncirin, **narirutin** glucoside and naringin glucoside from the leaves of C. aurantium.
IT 478-01-3, Nobiletin 481-53-8, Tangeretin 520-26-3, Hesperidin
520-27-4, Diosmin 552-57-8, Isorhoifolin 1168-42-9, Tetra-O-methyl scutellarein 1251-84-9, Quercetagetin hexamethyl ether 2174-59-6,
5-O-Demethyl nobiletin 2306-27-6, Sinensetin 3681-93-4, Vitexin
10236-47-2, Naringin 10576-86-0 13241-32-2, Neoeriocitrin
13241-33-3, Neohesperidin 13463-28-0, Eriocitrin 14259-46-2,
Narirutin 14259-47-3 14941-08-3 15822-81-8
15822-82-9 17257-21-5 17257-22-6 17290-70-9, Isosinensetin
17306-46-6, Rhoifolin 23666-13-9, Vicenin 32426-34-9, Vitexin
4'-rhamnoside 38665-01-9, Neodiosmin 38953-85-4, Isovitexin
40789-20-6 98813-28-6
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(from leaves of Citrus)

L4 ANSWER 10 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:411458 CAPLUS
DOCUMENT NUMBER: 131:184041
TITLE: Applicability of an improved Trolox equivalent

antioxidant capacity (TEAC) assay for evaluation of antioxidant capacity measurements of mixtures

AUTHOR(S): Van den Berg, Robin; Haenen, Guido R. M. M.; Van den Berg, Henk; Bast, Aalt

CORPORATE SOURCE: Division Human and Animal Nutrition, TNO Nutrition and Food Res. Inst., Zeist, 3700 AJ, Neth.

SOURCE: Food Chemistry (1999), 66(4), 511-517
CODEN: FOCHDJ; ISSN: 0308-8146
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The TEAC (Trolox equivalent antioxidant capacity) assay is based on scavenging of 2,2'-azinobis(3-ethylbenzothiazoline-6-sulfonate) radical anions (ABTS-). In this report we describe a modification based on pre-generation of the ABTS radical anions with a thermolabile azo compound, 2,2'-azobis(2-amidinopropane)-2HCl (ABAP). This modification makes the assay less susceptible to artifacts, e.g. influence on the radical generation process. For most antioxidants tested, a biphasic reaction pattern was seen, i.e. a fast and slow scavenging rate. We evaluated application of the assay with both lipophilic and hydrophilic compds. with antioxidant capacity. Several organic solvents, compatible with water, were tested with α-tocopherol, quercetin and β-carotene. It was found that the TEACs differed in various solvents. Under standardized conditions additivity of TEACs obtained from individual antioxidants could be demonstrated. This might enable application of the assay for the identification of "unknown" antioxidants.

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 50-81-7, L-Ascorbic acid, biological studies 59-02-9, α-Tocopherol 117-39-5, Quercetin 144-68-3, Zeaxanthin 472-70-8, β-Cryptoxanthin 490-83-5, Dehydroascorbic acid 502-65-8, Lycopene 520-26-3, Hesperidin 7235-40-7, β-Carotene 10236-47-2, Naringin 14259-46-2, **Narirutin**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(applicability of an improved Trolox equivalent antioxidant capacity (TEAC) assay for evaluation of antioxidant capacity measurements of mixts.)

L4 ANSWER 11 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:396069 CAPLUS

DOCUMENT NUMBER: 131:223008

TITLE: Effect of citrus flavonoids on HL-60 cell differentiation

AUTHOR(S): Kawaii, Satoru; Tomono, Yasuhiko; Katase, Eriko; Ogawa, Kazunori; Yano, Masamichi

CORPORATE SOURCE: National Institute of Fruit Tree Science, Shizuoka, 424-0204, Japan

SOURCE: Anticancer Research (1999), 19(2A), 1261-1270
CODEN: ANTRD4; ISSN: 0250-7005
PUBLISHER: International Institute of Anticancer Research
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Twenty-seven Citrus flavonoids were examined for their activity of induction of terminal differentiation of human promyelocytic leukemia cells (HL-60) by nitro blue tetrazolium (NBT) reducing, nonspecific esterase, specific esterase, and phagocytic activities. 10 Flavonoids were judged to be active (percentage of NBT reducing cells was more than 40% at a concentration of 40 μM), and the rank order of potency was natsudaidain, luteolin, tangeretin, quercetin, apigenin, 3,3, 4',5,6,7,8-heptamethoxyflavone, nobiletin, acacetin, eriodictyol, and taxifolin. These flavonoids exerted their activity in a dose dependent manner. HL-60 cells treated with these flavonoids differentiated into mature monocyte/macrophage. The structure-activity relationship established from comparison between flavones and flavanones revealed that ortho-catechol moiety in ring B and C2-C3 double bond had an important role for induction of differentiation of HL-60. In polymethoxylated flavones, hydroxyl group at C3 and methoxyl group at C8 enhanced the differentiation-inducing activity.

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 117-39-5, Quercetin 153-18-4, Rutin 478-01-3, Nobiletin 480-18-2, Taxifolin 480-41-1, Naringenin 480-44-4, Acacetin 481-53-8, Tangeretin 491-70-3, Luteolin 520-18-3, Kaempferol 520-26-3, Hesperidin 520-27-4, Diosmin 520-33-2, Hesperitin 520-36-5, Apigenin 552-57-8, Isorhoifolin 552-58-9 1178-24-1, 3,3',4',5,6,7,8-Heptamethoxyflavone 2306-27-6, Sinensetin 10236-47-2, Naringin 13241-32-2, Neoeriocitrin 13241-33-3, Neohesperidin 13463-28-0, Eriocitrin 14259-46-2, **Narirutin 14259-47-3**, **Neoponcirin** 14941-08-3, Poncirin 17306-46-6, Rhoifolin 35154-55-3, Natsudaidain 38665-01-9, Neodiosmin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(effect of citrus flavonoids on HL-60 cell differentiation)

L4 ANSWER 12 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:363417 CAPLUS
DOCUMENT NUMBER: 131:125078
TITLE: Antiproliferative activity of flavonoids on several cancer cell lines
AUTHOR(S): Kawaii, Satoru; Tomono, Yasuhiko; Katase, Eriko; Ogawa, Kazunori; Yano, Masamichi
CORPORATE SOURCE: National Institute of Fruit Tree Science, Shizuoka, 424-0204, Japan
SOURCE: Bioscience, Biotechnology, and Biochemistry (1999), 63(5), 896-899
CODEN: BBBIEJ; ISSN: 0916-8451
PUBLISHER: Japan Society for Bioscience, Biotechnology, and Agrochemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Twenty-seven Citrus flavonoids were examined for their antiproliferative activities against several tumor and normal human cell lines. As a result, 7 flavonoids were judged to be active against the tumor cell lines while they had weak antiproliferative activity against the normal human cell lines. The rank order of potency was luteolin, natsudaidain, quercetin, tangeretin, eriodictyol, nobiletin, and 3,3',4',5,6,7,8-heptamethoxyflavone. The structure-activity relationship established from comparison among these flavones and flavanones showed that the ortho-catechol moiety in ring B and a C2-C3 double bond were important for the antiproliferative activity. As to polymethoxylated flavones, C-3 hydroxyl and C-8 methoxyl groups were essential for high activity.
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 117-39-5, Quercetin 153-18-4, Rutin 478-01-3, Nobiletin 480-18-2, Taxifolin 480-41-1, Naringenin 480-44-4, Acacetin 481-53-8, Tangeretin 491-70-3, Luteolin 520-18-3, Kaempferol 520-26-3, Hesperidin 520-27-4, Diosmin 520-33-2 520-36-5, Apigenin 552-57-8, Isorhoifolin 552-58-9, Eriodictyol 1178-24-1, 3,3',4',5,6,7,8-Heptamethoxyflavone 2306-27-6, Sinensetin 10236-47-2, Naringin 13241-32-2, Neoeriocitrin 13241-33-3, Neohesperidin 13463-28-0, Eriocitrin 14259-46-2, **Narirutin 14259-47-3**, **Neoponcirin** 14941-08-3, Poncirin 17306-46-6, Rhoifolin 35154-55-3, Natsudaidain 38665-01-9, Neodiosmin
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antiproliferative activity of Citrus flavonoids on several cancer cell lines)

L4 ANSWER 13 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:189815 CAPLUS
DOCUMENT NUMBER: 130:208953
TITLE: Detection of apple juice adulteration
AUTHOR(S): Brause, Allan R.
CORPORATE SOURCE: Analytical Chemical Services, Columbia Inc., Columbia, MD, 21045, USA
SOURCE: Fruit Processing (1998), 8(7), 290-297
CODEN: FRPREY; ISSN: 0939-4435
PUBLISHER: Fluessiges Obst GmbH

DOCUMENT TYPE: Journal
LANGUAGE: English
AB It is reported on the application of the matrix method to detect adulterations in apple juice, orange juice, and pineapple juice with examples for matrix data results of apple and orange juice. Capillary gas chromatograms of adulterated apple juice are given.
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
IT 50-70-4, Sorbitol, biological studies 50-99-7, Glucose, biological studies 57-48-7, Fructose, biological studies 57-50-1, Sucrose, biological studies 147-85-3, Proline, biological studies 320-77-4, Isocitric acid 327-97-9, Chlorogenic acid 532-32-1, Sodium benzoate 6915-15-7, Malic acid 7440-09-7, Potassium, biological studies 7440-23-5, Sodium, biological studies 7440-44-0, Carbon, biological studies 7782-44-7, Oxygen, biological studies 10236-47-2, Naringin 14259-46-2, **Narirutin**
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(apple juice adulteration detected by the matrix method)

L4 ANSWER 14 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:104381 CAPLUS
DOCUMENT NUMBER: 130:266475
TITLE: Analytical monitoring of citrus juices by using capillary electrophoresis
AUTHOR(S): Cancalon, Paul F.
CORPORATE SOURCE: Florida Department of Citrus, Lake Alfred, FL, 33850, USA
SOURCE: Journal of AOAC International (1999), 82(1), 95-106
CODEN: JAINEE; ISSN: 1060-3271
PUBLISHER: AOAC International, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A capillary electrophoretic method was developed to analyze simultaneously most citrus juice components in a single procedure. After filtration, sample components are separated with an uncoated capillary tubing and a 35 mM sodium borate buffer (pH 9.3) containing 5% (volume/volume) acetonitrile. Analyses were run at 21 kV and 23°. Compds. monitored regularly were the biogenic amine synephrine, some flavonoids (**didymin**, hesperidin, **narirutin**, neohesperidin, and naringin), the polyphenol phlorin, 3 UV-absorbing amino acids (tryptophan, phenylalanine, and tyrosine), ascorbic acid, an unidentified peak generated by heat and storage, and the preservatives sorbate and benzoate that can be added to citrus products. Separation can be achieved in 20 min, and each compound can be subsequently quantitated. **Didymin**, **narirutin**, and phlorin peaks were used with an artificial neural network to assess the volume of added pulp wash, a byproduct of juice preparation This method allows rapid monitoring of citrus juices, giving information on quality, freshness, and possible adulteration of the product. Similar procedures could be used to monitor other fruit juices and quantitate diverse juice blends.
REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
AB A capillary electrophoretic method was developed to analyze simultaneously most citrus juice components in a single procedure. After filtration, sample components are separated with an uncoated capillary tubing and a 35 mM sodium borate buffer (pH 9.3) containing 5% (volume/volume) acetonitrile. Analyses were run at 21 kV and 23°. Compds. monitored regularly were the biogenic amine synephrine, some flavonoids (**didymin**, hesperidin, **narirutin**, neohesperidin, and naringin), the polyphenol phlorin, 3 UV-absorbing amino acids (tryptophan, phenylalanine, and tyrosine), ascorbic acid, an unidentified peak generated by heat and storage, and the preservatives sorbate and benzoate that can be added to citrus products. Separation can be achieved in 20 min, and each compound can be subsequently quantitated. **Didymin**, **narirutin**, and phlorin peaks were used with an artificial neural network to assess the volume of added pulp wash, a byproduct of juice preparation This method allows rapid monitoring of citrus juices, giving information on quality,

freshness, and possible adulteration of the product. Similar procedures could be used to monitor other fruit juices and quantitate diverse juice blends.

IT 50-81-7, Ascorbic acid, analysis 60-18-4, L-Tyrosine, analysis 63-91-2, Phenylalanine, analysis 65-85-0, Benzoic acid, analysis 73-22-3, Tryptophan, analysis 94-07-5, Synephrine 110-44-1, Sorbic acid 520-26-3, Hesperidin 10236-47-2, Naringin 13241-33-3, Neohesperidin 14259-46-2, **Narirutin 14259-47-3**, **Didymin** 28217-60-9, Phlorin
RL: ANT (Analyte); ANST (Analytical study)
(anal. monitoring of citrus juices with capillary electrophoresis)

L4 ANSWER 15 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:25273 CAPLUS
DOCUMENT NUMBER: 130:217605
TITLE: Quantitative structure-activity relationship analysis of phenolic antioxidants
AUTHOR(S): Lien, Eric J.; Ren, Shijun; Bui, Huynh-Hoa; Wang, Rubin
CORPORATE SOURCE: Department of Pharmaceutical Sciences, School of Pharmacy, University of Southern California, Los Angeles, CA, 90033, USA
SOURCE: Free Radical Biology & Medicine (1998), Volume Date 1999, 26(3/4), 285-294
CODEN: FRBMEH; ISSN: 0891-5849
PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In this report, the quant. structure-activity relationship (QSAR) analyses of substituted phenols, vitamin E derivs. and flavonoids are presented. Two models have been derived using calculated parameters such as the heat of formation (Hf), the energy of the LUMO of radicals (Elumo-r), the energy of the HOMO of the parent compds. (Ehomo) and the number of hydroxyl groups (OH). These models can be used to estimate the redox potentials or antioxidant activities of new substituted phenolic compds. or vitamin E derivs. The Trolox equivalent antioxidant capacities (TEACs) of 42 different flavonoids are found to be mainly governed by the number and location of hydroxyl groups on the flavonoid ring system.

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 54-28-4 59-02-9, α-Tocopherol 60-18-4, L-Tyrosine, biological studies 87-66-1, 1,2,3-Benzenetriol 89-84-9 90-05-1, Phenol, 2-methoxy- 91-10-1, Phenol, 2,6-dimethoxy- 92-69-3, [1,1'-Biphenyl]-4-ol 93-51-6, Phenol, 2-methoxy-4-methyl- 95-48-7, biological studies 98-54-4 99-24-1 99-50-3, Benzoic acid, 3,4-dihydroxy- 99-93-4 99-96-7, biological studies 100-02-7, Phenol, 4-nitro-, biological studies 106-41-2, Phenol, 4-bromo- 106-44-5, biological studies 106-48-9, Phenol, 4-chloro- 108-39-4, biological studies 108-46-3, 1,3-Benzenediol, biological studies 108-68-9, Phenol, 3,5-dimethyl- 108-95-2, Phenol, biological studies 117-39-5, Quercetin 119-13-1 120-80-9, 1,2-Benzenediol, biological studies 121-71-1 123-30-8 123-31-9, 1,4-Benzenediol, biological studies 134-01-0, Peonidin 134-04-3, Pelargonidin 150-76-5, Phenol, 4-methoxy- 153-18-4, Rutin 154-23-4, Catechin 331-39-5, 3,4-Dihydroxycinnamic acid 371-41-5, Phenol, 4-fluoro- 402-45-9, Phenol, 4-trifluoromethyl- 446-72-0, Genistein 452-86-8, 1,2-Benzenediol, 4-methyl- 480-16-0, Morin 480-18-2, Taxifolin 480-20-6, Dihydrokaempferol 480-40-0, Chrysin 480-41-1, Naringenin 485-72-3, Formononetin 486-62-4, Ononin 486-66-8, Daidzein 490-46-0, Epicatechin 491-70-3, Luteolin 491-80-5, Biochanin A 500-99-2, Phenol, 3,5-dimethoxy- 520-18-3 520-26-3, Hesperidin 520-33-2, Hesperetin 520-36-5, Apigenin 528-53-0, Delphinidin 528-58-5, Cyanidin 529-44-2, Myricetin 529-59-9, Genistin 533-31-3, Sesamol 540-38-5, Phenol, 4-iodo- 552-58-9, Eriodictyol 552-66-9, Daidzin 554-84-7, Phenol, 3-nitro- 576-26-1, Phenol, 2,6-dimethyl- 591-35-5, Phenol, 3,5-dichloro- 619-60-3, Phenol, 4-(dimethylamino)- 642-71-7, Phenol, 3,4,5-trimethoxy- 643-84-5, Malvidin 767-00-0 863-03-6, Epicatechin gallate 873-62-1, Benzonitrile, 3-hydroxy- 950-99-2 970-74-1, Epigallocatechin

989-51-5, Epigallocatechin gallate 1137-42-4 1151-98-0, Apigenidin
1406-18-4, Vitamin E 1886-42-6 2033-89-8, Phenol, 3,4-dimethoxy-
2174-64-3, 1,3-Benzenediol, 5-methoxy- 4670-05-7, Theaflavine
6920-38-3, Luteolin-4'-glucoside 6956-76-9 7228-78-6, Oenin
14074-92-1 14168-12-8 14259-46-2, **Narirutin** 16698-35-4,
β-D-Tocopherol 18403-57-1 18719-76-1, Keracyanin 19206-87-2
19274-66-9 22460-35-1 27661-36-5, Idaein 28543-07-9,
Theaflavin-3'-gallate 30462-34-1, Theaflavin-3-gallate 30462-35-2,
Theaflavin-3,3'-digallate 52187-80-1, Luteolin-3',7-diglucoside
53891-33-1 84574-05-0 95778-63-5 113522-58-0 118111-99-2
118112-00-8 118112-01-9 221177-92-0 221177-93-1 221177-94-2
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(QSAR anal. of phenol, vitamin E derivative and flavonoid antioxidants)

L4 ANSWER 16 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:810812 CAPLUS
DOCUMENT NUMBER: 130:152718
TITLE: Separation of flavanone glycosides in the peel of citrus fruit and immature citrus fruit by using capillary electrophoresis
AUTHOR(S): Takei, Harumi; Ohsone, Manami; Okamura, Yumiko; Yoshizaki, Fumihiko
CORPORATE SOURCE: Tohoku College of Pharmacy, Sendai, 981-8558, Japan
SOURCE: Analytical Sciences (1998), 14(6), 1165-1168
CODEN: ANSCEN; ISSN: 0910-6340
PUBLISHER: Japan Society for Analytical Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The flavanone glycosides were isolated, in an attempt to find the advantages of using capillary electrophoresis (CE). In comparison with HPLC, the advantages of CE were: purging the column after complete elution of the necessary components could reduce the deterioration of the CE column as well as reduce the time for an anal. Plus, a markedly smaller volume of the solvent required for an anal. reduced the operating cost. The study suggest that CE has excellent qualities similar to HPLC in the anal. of flavanone glycosides.
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
IT 520-26-3, Hesperidin 10236-47-2, Naringin 13241-33-3, Neohesperidin 14259-46-2, **Narirutin**
RL: ANT (Analyte); ANST (Analytical study)
(separation of flavanone glycosides in peel of citrus fruit and immature citrus fruit by using capillary electrophoresis)

L4 ANSWER 17 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:729190 CAPLUS
DOCUMENT NUMBER: 130:122179
TITLE: Chemical constituents of Clinopodium polycephalum
AUTHOR(S): Ding, Lisheng; Chen, Peiqing; Peng, Shulin; Huang, Yuanzheng
CORPORATE SOURCE: Chengdu Institute of Biology, Chinese Academy of Sciences, Chengdu, 610041, Peop. Rep. China
SOURCE: Tianran Chanwu Yanjiu Yu Kaifa (1998), 10(1), 6-8
CODEN: TCYKE5; ISSN: 1001-6880
PUBLISHER: Tianran Chanwu Yanjiu Yu Kaifa Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
AB From the aerial part of medical plant of Clinopodium polycephalum (Vaniot)C. Y. Wu et Hsuan ex Hsuan, five compds. were isolated and identified as ursolic acid (I), isosakuranetin (II), **didymin** (III), 6'-palmityl-α-spinasteryl-3-O-β-D-glucoside (IVa), and 6'-steryl-α-spinasteryl-3-O-β-D-glucoside (IV b). The compds. were first reported in this plant.
AB From the aerial part of medical plant of Clinopodium polycephalum (Vaniot)C. Y. Wu et Hsuan ex Hsuan, five compds. were isolated and identified as ursolic acid (I), isosakuranetin (II), **didymin** (III), 6'-palmityl-α-spinasteryl-3-O-β-D-glucoside (IVa), and

6'-steryl-α-spinasteryl-3-O-β-D-glucoside (IV b). The compds. were first reported in this plant.

IT 77-52-1P, Ursolic acid 480-43-3P, Isosakuranetin **14259-47-3P**, **Didymin** 54964-57-7P, 6'-Palmitoyl-α-spinasteryl-3-O-β-D-glucoside 219605-30-8P
RL: PUR (Purification or recovery); PREP (Preparation)
(chemical constituents of Clinopodium polycephalum)

L4 ANSWER 18 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:679809 CAPLUS
DOCUMENT NUMBER: 130:107541
TITLE: Chemical constituents from the aerial parts of Clinopodium polycephalum. I.
AUTHOR(S): Chen, Jingyu; Chen, Jianmin; Xiao, Peigen
CORPORATE SOURCE: Institute of Medicinal Plant Development, Chinese Academy of Medical Sciences, Peking Union Medical College, Beijing, 100094, Peop. Rep. China
SOURCE: Tianran Chanwu Yanjiu Yu Kaifa (1997), 9(3), 5-8
CODEN: TCYKE5; ISSN: 1001-6880
PUBLISHER: Tianran Chanwu Yanjiu Yu Kaifa Bianjibu
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB Four chemical constituents were isolated from the aerial parts of Clinopodium polycephalum. They were identified as **didymin**, naringenin, apigenin, and P- coumaric acid by UV, IR, 1H NMR, 13C NMR, MS and chemical evidences. They were all isolated from this plant for the first time.

AB Four chemical constituents were isolated from the aerial parts of Clinopodium polycephalum. They were identified as **didymin**, naringenin, apigenin, and P- coumaric acid by UV, IR, 1H NMR, 13C NMR, MS and chemical evidences. They were all isolated from this plant for the first time.

IT 480-41-1P, Naringenin 520-36-5P, Apigenin 7400-08-0P, P-Coumaric acid **14259-47-3P**, **Didymin**
RL: PUR (Purification or recovery); PREP (Preparation)
(chemical constituents from aerial parts of Clinopodium polycephalum. I)

L4 ANSWER 19 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:440291 CAPLUS
DOCUMENT NUMBER: 129:135435
TITLE: The influence of gamma irradiation on flavonoids content during storage of irradiated clementina
AUTHOR(S): Oufedjikh, H.; Mahrouz, M.; Lacroix, M.; Amiot, M. J.; Taccini, M.
CORPORATE SOURCE: Department of Chemistry, Faculty of Science, Semlalia, Marrakech, Morocco
SOURCE: Radiation Physics and Chemistry (1998), 52(1-6), 107-112
CODEN: RPCHDM; ISSN: 0969-806X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The influence of gamma irradiation on the content of some important flavonoids (flavonone glycosides and polymethoxylated flavones) was evaluated during storage of Moroccan clementina treated at a mean dose of 0.3 kGy and stored three months at 3°C. At day 1, gamma irradiation induced degradation of small quantities of these flavonoids, however after 14 days of storage, the content of these compds. was significantly higher in irradiated samples. Irradiation stimulated biosynthesis of flavonoids after 14 days of storage. Hesperidin was the major flavanone in clementines. Nobiletin and heptamethoxyflavone were the major polymethoxylated flavones in clementines. The content of these compds. was significantly higher in irradiated samples.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 90-18-6, Quercetagetin 478-01-3, Nobiletin 481-53-8, Tangeretin 520-26-3, Hesperidin 529-53-3, Scutellarein 1178-24-1, 3,5,6,7,8,3',4'-Heptamethoxyflavone 2306-27-6, Sinensetin 13463-28-0, Eriocitrin 14259-46-2, **Narirutin 14259-47-3**, **Didymin** 41440-05-5, Isoscutellarein

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(flavonoid content during storage of mandarin orange after gamma irradiation)

L4 ANSWER 20 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:331252 CAPLUS
DOCUMENT NUMBER: 129:65533
TITLE: Flavonoids from Baccharis halimifolia, Monarda didyma, and Gnaphalium dioicum
AUTHOR(S): Joshi, Balawant S.; Haider, Syed Imtiaz; Pelletier, S. William
CORPORATE SOURCE: Institute for Natural Products Research and Department of Chemistry, The University of Georgia, Athens, GA, 30602-2556, USA
SOURCE: Journal of the Indian Chemical Society (1997), 74(11-12), 874-876
CODEN: JICSAH; ISSN: 0019-4522
PUBLISHER: Indian Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Hispidulin, cirsimaritin were isolated from Baccharis halimifolia, **didymin** was isolated from Monarda didyma, and isokaempferide from Gnaphalium dioicum.
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
AB Hispidulin, cirsimaritin were isolated from Baccharis halimifolia, **didymin** was isolated from Monarda didyma, and isokaempferide from Gnaphalium dioicum.
ST cirsimaritin Baccharis; hispidulin Baccharis; **didymin** Monarda; flavonoid Baccharis Monarda Gnaphalium; isokaempferide Gnaphalium
IT 508-02-1, Oleanolic acid 1447-88-7, Hispidulin 1592-70-7, Isokaempferide 6601-62-3, Cirsimaritin **14259-47-3**, **Didymin**
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(flavonoids from Baccharis halimifolia, Monarda didyma, and Gnaphalium dioicum)

L4 ANSWER 29 OF 132 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:612479 CAPLUS
DOCUMENT NUMBER: 127:292212
TITLE: Characterization of citrus by chromatographic analysis of flavonoids
AUTHOR(S): Robards, Kevin; Li, Xia; Antolovich, Michael; Boyd, Stephen
CORPORATE SOURCE: School of Science and Technology, Charles Sturt University, Wagga Wagga, 2678, Australia
SOURCE: Journal of the Science of Food and Agriculture (1997), 75(1), 87-101
CODEN: JSFAAE; ISSN: 0022-5142
PUBLISHER: Wiley
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Flavonoid glycosides in citrus were characterized by high-performance liquid chromatog. using both UV and fluorescence detection. The effects of sample preparation on the chromatog. profiles are reported. Key variables in the profiles useful as chemotaxonomic markers were identified with the aid of pattern recognition, which was also used to create sample categories. LC-MS data are presented and the advantages of mass spectrometric detection are demonstrated.
REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
IT 520-26-3, Hesperidin 10236-47-2, Naringin 13241-33-3, Neohesperidin 13463-28-0, Eriocitrin 14259-46-2, **Narirutin** **14259-47-3**, **Neoponcirin** 197235-47-5
RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)
(characterization of citrus by chromatog. anal. of flavonoids)

```
=> d his

     (FILE 'HOME' ENTERED AT 15:00:56 ON 27 MAR 2006)

     FILE 'CAPLUS' ENTERED AT 15:01:04 ON 27 MAR 2006
               S 14259-47-3/REG# OR NARIRUTIN OR DIDYMIN OR  NEOPONCIRIN

     FILE 'REGISTRY' ENTERED AT 15:01:36 ON 27 MAR 2006
L1             1 S 14259-47-3/RN

     FILE 'CAPLUS' ENTERED AT 15:01:37 ON 27 MAR 2006
L2            98 S L1
L3           248 S L2 OR NARIRUTIN OR DIDYMIN OR NEOPONCIRIN
L4           132 S L3 NOT PY>=2000
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=> d ibib abs kwic 1,3,19,47,56

L19 ANSWER 1 OF 58 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:199982 CAPLUS
DOCUMENT NUMBER: 133:16667
TITLE: Flavanone glucosides in Italian orange juices
AUTHOR(S): Postorino, Enrico; Gionfriddo, Francesco
CORPORATE SOURCE: Stazione Sperimentale per le Industrie delle Essenze e dei Derivati dagli Agrumi, Reggio Calabria, Italy
SOURCE: Essenze, Derivati Agrumari (1999), 69(3), 149-158
CODEN: EDAGAH; ISSN: 0014-0902
PUBLISHER: Stazione Sperimentale per l'Industria delle Essenze e dei Derivati Agrumari
DOCUMENT TYPE: Journal
LANGUAGE: Italian
AB Fresh (n=29) and concentrated juices (n=39) produced in Sicily and Calabria from blond and blood (red) oranges in 1997-98 season were analyzed for the the flavonone glycosides narirutin, hesperidin, and didymin by reversed-phase HPLC. The fresh juices from blood oranges had the narirutin, hesperidin, and didymin mean concns. of 76, 704, and 35 mg/L, resp. The mean ratio of hesperidin to narirutin was 9.30. The concentrated juices reconstituted to 11.18° Brix had the resp. narirutin, hesperidin and didymin mean concns. of 52, 691, and 24 mg/L for blood orange juices and 80, 602, and 32 mg/L for blond orange juices. The mean ratios of hesperidin to narirutin were 13.3 and 7.61, resp.
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
IT 520-26-3, Hesperidin 14259-46-2, Narirutin **14259-47-3**, Didymin
RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)
(flavanone glucosides narirutin, hesperidin and didymin in Italian fresh and concentrated juices from red and blonde oranges)

L19 ANSWER 3 OF 58 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:535608 CAPLUS
DOCUMENT NUMBER: 131:227979
TITLE: Flavonoids as authenticity markers for Citrus sinensis juice
AUTHOR(S): Ooghe, W.; Detavernier, C.
CORPORATE SOURCE: Lab. Bromatologie, Ghent, B-9000, Belg.
SOURCE: Fruit Processing (1999), 9(8), 308-313
CODEN: FRPREY; ISSN: 0939-4435
PUBLISHER: Fluessiges Obst
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Flavanone glycosides (FGs) and polymethoxyflavones (PMFs) were determined by HPLC to detect adulterations by the addition of non-Citrus sinensis juices (C. paradisi, C. bergamia, C. aurantium, C. reticulata, and hybrids) to sweet orange juices. Sweet orange juice has to fulfil the rules, that narirutin, hesperidin, and dimydin are present, that eriocitrin and the flavanone neohesperidosides are absent, and that the ratio hesperidin on narirutin is 3-13. Using the FGs it was not always possible to differentiate between C. sinensis juice and other juices, as for instance some C. reticulata species and tangor hybrids, especially in case of addition of small amts. of such juices. The determination of the relative PMF pattern was developed as complementary method. Adulterations of authentic sweet orange juice with ≥10% of juices from C. reticulata and tangor hybrids were detected.
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
IT 90-18-6, Quercetagetin 478-01-3, Nobiletin 481-53-8, Tangeretin 520-26-3, Hesperidin 529-53-3, Scutellarein 1178-24-1 2306-27-6, Sinensetin 14259-46-2, Narirutin **14259-47-3**, Didymin
RL: ANT (Analyte); BOC (Biological occurrence); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)
(flavonoids as authenticity markers for Citrus sinensis juice)

L19 ANSWER 19 OF 58 CAPLUS COPYRIGHT 2006 ACS on STN

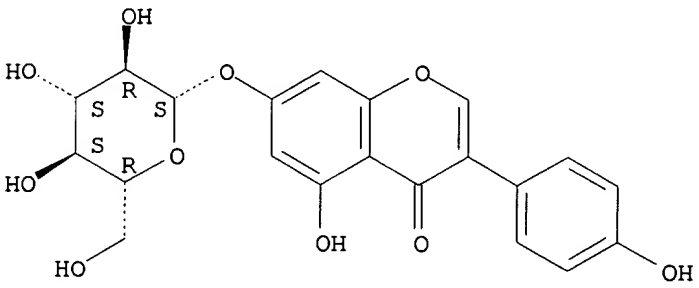
ACCESSION NUMBER: 1997:430871 CAPLUS
DOCUMENT NUMBER: 127:173841
TITLE: Glucoside flavanones from bergamot juice
AUTHOR(S): Gionfriddo, Francesco; Postorino, Enrico; Bovalo, Francesco
CORPORATE SOURCE: Staz. Sper. Ind. Essenze Deriv. Agrumari, Reggio Calabria, Italy
SOURCE: Essenze, Derivati Agrumari (1996), 66(4), 404-416
CODEN: EDAGAH; ISSN: 0014-0902
PUBLISHER: Stazione Sperimentale per l'Industria delle Essenze e dei Derivati Agrumari
DOCUMENT TYPE: Journal
LANGUAGE: Italian
AB The concns. of the 5 predominant flavanones (naringin, neoeriocitrin, neohesperidin, narirutin, and didymin) were determined by HPLC in bergamot juice at various times during ripening of the fruit from Dec. 27 to Apr. 20. The high levels of these flavanoids (200-700 mg/L) indicate the potential use of bergamot juice as an additive to other citrus juices.
IT 10236-47-2, Naringin 13241-32-2, Neoeriocitrin 13241-33-3, Neohesperidin 14259-46-2, Narirutin **14259-47-3**, Didymin
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(glucoside flavanones from bergamot juice)

L19 ANSWER 47 OF 58 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1975:404974 CAPLUS
DOCUMENT NUMBER: 83:4974
TITLE: Flavonoid glycosides of Citrus sinensis var salustiana
AUTHOR(S): Tomas, F.; Serrano, F. A.
CORPORATE SOURCE: Cent. Edafol. Biol. Apl. Segura, Murcia, Spain
SOURCE: Revista de Agroquimica y Tecnologia de Alimentos (1974), 14(4), 561-4
CODEN: RATLAB; ISSN: 0034-7698
DOCUMENT TYPE: Journal
LANGUAGE: Spanish
AB The following flavonoids from the peel of the fruit were identified, using column, thin-layer, and paper chromatog.: isosakuranetin 7-rutinoside, naringenin 7-rutinoside, hesperidin, and diosmin. A flavone which could be apigenin 7-rutinoside was also extracted
IT 520-26-3 520-27-4 552-57-8 14259-46-2 **14259-47-3**
RL: BIOL (Biological study)
(of orange peel)

L19 ANSWER 56 OF 58 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1967:491086 CAPLUS
DOCUMENT NUMBER: 67:91086
TITLE: Flavonoid glycosides in the leaves of Poncirus trifoliata
AUTHOR(S): Shimokoriyama, Masami
CORPORATE SOURCE: Univ. Tokyo, Tokyo, Japan
SOURCE: Shokubutsugaku Zasshi (1966), 79(Oct.-Nov.), 602-7
CODEN: SHOZAK; ISSN: 0371-0149
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Poncirin (I), neoponcirin (II), m. 175-80°, [α]20D 93.6° (50% EtOH), naringin, m. 80-3°, 193-4°, and rhoifolin, m. 208-10°, were obtained from the leaves by alc. extraction I (2 g.) was partially hydrolyzed by refluxing in 25 ml. 50% EtOH and 0.5 ml. 20% HCl for 3 hrs. to give 0.4 g. isosakuranin, m. 172-8°, [α]20D -48.2° (90% EtOH), emulsin hydrolysis of which gave isosakuranetin, m. 170°, [α]20D -13.4° (90% EtOH). II (2 g.) in 50 ml. 50% EtOH and 0.25 g. NaHCO3 was refluxed 30 min. and kept 1 week to give 0.3 g. acacetin glycoside I (fortunellin) (III), m. 208-14°, hydrolysis of which gave acacetin, rhamnose, and glucose. I in 50% EtOH and NaHCO3 gave acacetin glycoside II (linarin) (IV), m. 260-2°. III and IV were not found in the leaves by paper chromatog.
IT **14259-47-3**, Neoponcirin

L15 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN **529-59-9** REGISTRY
CN 4H-1-Benzopyran-4-one, 7-(β-D-glucopyranosyloxy)-5-hydroxy-3-(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Genistin (6CI, 7CI, 8CI)
OTHER NAMES:
CN 4',5,7-Trihydroxyisoflavone 7-β-D-glucopyranoside
CN Genistein 7-O-β-D-glucopyranoside
CN Genistein 7-O-β-D-glucoside
CN Genistein 7-O-β-glucoside
CN Genistein 7-O-glucoside
CN Genistein, 7-β-D-glucopyranoside
CN Genisteol 7-monoglucoside
CN Genistine
CN Genistoside
CN NSC 5112
FS STEREOSEARCH
DR 25449-68-7, 30370-89-9, 100455-46-7
MF C21 H20 O10
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CSCHEM, DDFU, DRUGU, EMBASE, IPA, MEDLINE, MRCK*, NAPRALERT, PROMT, RTECS*, TOXCENTER, USPAT2, USPATFULL
(*File contains numerically searchable property data)
DT.CA CAplus document type: Conference; Dissertation; Journal; Patent
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)
RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological study); PROC (Process); PRP (Properties); USES (Uses)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

939 REFERENCES IN FILE CA (1907 TO DATE)
12 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
947 REFERENCES IN FILE CAPLUS (1907 TO DATE)
19 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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=> s e1-e17
            98 14259-47-3/BI
          8296 329900-75-6/BI
           400 481-53-8/BI
          2714 486-66-8/BI
          1054 487-26-3/BI
           315 491-54-3/BI
           898 491-67-8/BI
          3215 491-70-3/BI
          1004 491-80-5/BI
          1741 520-26-3/BI
           437 520-27-4/BI
           953 520-33-2/BI
          1568 525-82-6/BI
           900 528-48-3/BI
          1943 529-44-2/BI
           947 529-59-9/BI
           967 577-85-5/BI
```

L5 ANSWER 9 OF 9 USPATFULL on STN

ACCESSION NUMBER:	2001:218473 USPATFULL
TITLE:	Novel use of flavones
INVENTOR(S):	**Wenzel, Uwe**, Freising, Germany, Federal Republic of Daniel, Hannelore, Freising, Germany, Federal Republic of

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001046963	A1	20011129
APPLICATION INFO.:	US 2001-782306	A1	20010214 (9)

	NUMBER	DATE
PRIORITY INFORMATION:	US 2000-185179P	20000225 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	Messrs. Keil & Weinkauf, 1101 Connecticut Ave. N.W., Washington, DC, 20036
NUMBER OF CLAIMS:	12
EXEMPLARY CLAIM:	1
LINE COUNT:	781

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 2 OF 9 EPFULL COPYRIGHT 2006 EPO/FIZ KA on STN

ACCESSION NUMBER:	2001:4258 EPFULL
DATA UPDATE DATE:	20030502
DATA UPDATE WEEK:	200318
TITLE (ENGLISH):	Use of flavones for treating cycloxygenase-2 mediated diseases
TITLE (FRENCH):	Utilisation de flavones dans le traitement de maladies induites par cyclooxygenase-2
TITLE (GERMAN):	Verwendung von Flavonen zur Behandlung von Cyclooxygenase-2 ermittelten Krankheiten
INVENTOR(S):	**Wenzel, Uwe, Dr., Philipp-Dirr-Strasse 50, 85354 Freising, DE**; Daniel, Hannelore, Prof. Dr., Schneggstrasse 7, 85354 Freising, DE
PATENT APPLICANT(S):	BASF AKTIENGESELLSCHAFT, , 67056 Ludwigshafen, DE
PATENT APPL. NUMBER:	200001
DOCUMENT TYPE:	Patent
LANGUAGE OF FILING:	English
LANGUAGE OF PUBL.:	English
LANGUAGE OF PROCEDURE:	English
LANGUAGE OF TITLE:	German; English; French
PATENT INFO TYPE:	EPA3 Separate publication of search report

PATENT INFORMATION:

NUMBER	KIND	DATE
EP 1127572	A3	20030502

DESIGNATED STATES:	AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EXTENSION STATES:	AL LT LV MK RO SI

APPLICATION INFO.:	EP 2001-103200	A	20010212
PRIORITY INFO.:	US 2000-185179P	P	20000225